UNIVERSAL WEED COVER

Background of the Invention

The present invention relates to a universal weed cover, and more particularly to a weed cover to be placed under and around guardrails or any other similar vertical structures so as to control undergrowth. The main purpose of this device is to provide ground cover and landscaping control to the area immediately under a vertical obstruction of a roadside guardrail so that vegetation does not grow in that area.

Modern roads, highways, and interstates are lined with guardrails for safety purposes. The presence of these guardrails, however, makes it difficult for the highway department to cut or trim the grass under the guardrails and maintain a neat and trimmed look along the roadways. In particular, large tractor type mowers and other maintenance equipment cannot maneuver close enough to the guardrails. If left uncut, the weeds can grow to a point where it obstructs the vision of the driver and also creates an unsightly scene. Often times, resort is made to hand-held devices to trim these areas, which are laborious and time consuming and hence expensive. Another alternative is to spray the area under the guardrails with weed-killers such as Roundup. This requires repeated application of chemicals over time and is not environmentally friendly.

Various devices have been proposed to control weed growth under the guardrails. For example, U.S. Pat. No. 6,276,869 B1 discloses a thin circular plate having a conical surface wherein a post can pass through its central opening. While this device covers an area immediately under individual guardrail posts, it fails to control weed growth between the guardrail posts. A device disclosed in Japanese Pat. No. 08068022 teaches the use of a circular plate and a long plate to prevent weed growth under the guardrails.

The circular plate has a central opening to allow a guardrail post to pass through and the long plate is installed between the guardrail posts. This arrangement, however, suffers from a number of problems. First, weeds can grow out of the junction between the two types of plates because there is no overlap between the neighboring plates. Secondly, a perfect alignment between the two members would not allow expansion of the plates in hot weather. Further examples of weed covers include devices disclosed in U.S. Pat. No. 5,285,594 and Japanese Pat. No. 11036252. Both devices involve a plurality of flat cover panels connected with each other to form a belt-like cover for prevention of weed growth. The arrangement of fixating flat panels from end to end does not allow lateral expansion of the flat panels. Furthermore, the flat panel will deform with time due to expansion and contraction caused by solar heat, or physical force exerted when a vehicle gets on it. The edge of the cover panel likely will come off the ground and may be bent to turn upward, and weeds may enter through the bent portion. Still another problem associated with flat cover panels is the accumulation of dirt and other organic matter on the surface of the cover panel. Without regular maintenance, the flat cover panel will be covered with dirt on which grass and weed would grow.

Accordingly, a need exists for an improved ground cover for the area in and around a roadside guardrail.

Summary of the Invention

An objective of the present invention is the provision of a universal weed cover that covers and prevents growth of weeds and grass around guardrails and other objects extending upwardly from the ground.

Another objective of the present invention is the provision of a universal weed cover which eliminates the need to mow or trim an area immediately adjacent to a guardrail or any other vertical structures, and which allows for easy mowing and trimming around the perimeter of the cover system.

A further objective of the present invention is the provision of a universal weed cover that eliminates the need to chemically treat an area immediately adjacent to a guardrail or a vertical structure for the purpose of weed control.

Another objective of the present invention is the provision of a universal weed cover that will enhance the overall appearance of the area immediately adjacent to a guardrail with a neat and trimmed outlook.

Still another objective of the present invention is the provision of a universal weed cover having an upper surface textured so as to keep the upper surface free from soil accumulation.

Another objective of the present invention is the provision of a universal weed cover that has interconnecting components and can be easily and quickly installed and repaired.

A further objective of the present invention is the provision of a universal weed cover that allows the lateral expansion and contraction of individual components.

Another objective of the present invention is the provision of a universal weed cover that maintains structural integrity in the presence of environmental and physical forces.

Still another objective of the present invention is the provision of a universal weed cover that is made of recycled plastic and economical to manufacture.

These and other objectives will become apparent from the following description of the invention. To that end, a universal weed cover system for surrounding a series of guardrail posts extending upwardly from the ground so as to protect the area adjacent to the posts is provided. The system comprises a plurality of generally rectangular panels adapted for mating alignment with each other, at least one cut-out section in the panels conforming generally to the shape of the posts, and wherein when the panels are matingly aligned adjacent to the posts to substantially cover the ground around the post and protect from undergrowth.

Brief Description of the Drawings

Figure 1 is a top view of a panel of a universal weed cover system.

Figure 2 is a perspective view of the panel.

Figure 3 is an enlarged view of a lower central ribbed portion of the panel.

Figure 4 is a view of a prior art roadway guardrail.

Figure 5a is a perspective view of the universal weed cover system placed adjacent to a roadway guardrail.

Figure 5b is a perspective view of the universal weed cover system adjacent to a roadway guardrail.

Figure 6 is a perspective view of the universal weed cover system adjacent to a roadway guardrail.

Figure 7a is top view of a posthole opening cover of the system.

Figure 7b is a side view of the posthole opening cover.

Figure 8 is a side view of a clip used to connect the panels.

Detailed Description of the Invention

In the Figures, a universal weed cover system **10** is shown, which is designed for use in conjunction with conventional guardrail posts **24** and guardrail **44** located along roadways. The system **10** is comprised of a plurality of panels **8**, shown best in Figures 1, 2. The panel **10** generally comprises 4 sides, a first side **12** facing the roadway, a second side **14** opposite thereto, and opposing lateral sides **16, 18** having cut-out sections **20** therein. In the preferred embodiment of the invention, the panel **8** is made from 80% recycled and 20% high-density polyethylene plastic with UV protection and 2% carbon black added. The panel **8** measures at 6 feet and 8 inches between the opposing lateral sides **16, 18** and measures 48 inches between the first and second sides **12, 14**. The panel **8** is of a generally uniform thickness of 3/16 inches. Of course, those of ordinary skill in the art will understand that the size, thickness, and composition of the panel **8** can and will vary without departing from the scope of the invention.

The first side **12** and second side **14** both include slopped surfaces **22** with slightly curved edges **42** (see Figure 2), which assist with drainage of water and provide some amount of a seal protecting the underside of the panel **8**. The cut-out sections **20** of the panel **8** are offset for mating alignment of the panels **8**. As shown best in Figure 1, the opposing lateral sides **16, 18** are not linear along the lengths of the sides **16, 18**. The portion of side **16** below the cut-out **20** extends laterally outward further than the portion of the side **16** above the cut-out **20**. In an opposite manner, the portion of side **18** above the cut-out **20** extends laterally outward further than the portion of the side **18** below the cut-out **20**. This allow for a better fit around the guardrail posts **24**. Alternatively, the

panels **8** could include a single cut-out **20** on one side that would align with a straight edge on an adjoining panel **8**, or could be linearly arranged along each side of the panel **8**.

The panels **8** also include a plurality of slots **26**. The slots **26** are laterally elongated to allow for expansion of the panels **8** when interconnected. The slots **26** allow for approximately 3 inches of expansion due to variations in ambient heating and cooling, which would otherwise tend to warp of buckle the panels **8**. Fasteners **32** secure through the slots **26** to hold the panels **8** in place (see Figure 5a).

The panel **8** also includes a central crease **30** that provides camber to assist with drainage of water and to adjust to roadside slope. A collection of ribs **28** straddle the crease **30**. The ribs **28** help strengthen the panel **8** and help to channel water and dirt from off of the upper surface of the panel **8**. The ribs **28** comprise an H-shaped grid and an arced section located below the H-shaped grid near the side **14** (see Figure 3).

When the panels **8** are in place the system **10** is formed (as shown in Figures 5a, 5b, 6). Configured in this manner, a post opening cover **34** secures over the cut-out sections **20** and secures to the guardrail post **24**. The cover **34** covers any gap between panels **8** and the guardrail post **24**, thereby providing an additional seal around the guardrail post **24**. The cover **34** includes a slotted portion **40** sized to fit around the guardrail post **24**. A flap **36** secures to the back side of the guardrail post **24** with conventional fasteners like screws or nails. Holes **38** are provided in the flap **36** of the cover **34** for this purpose. As can be seen in Figure 7a, 7b, the flap **36** of the cover **34** is flexibly hinged at the point were it attaches to the cover **34** allow for easy attachment to the guardrail post **24**. The flap **34** may be attached to the panel **8** or to the ground by

means of landscaping staples. The flap **36** may not be necessary depending on the size of the guardrail posts **24** in relation to the cut-out sections **20**.

The universal weed cover system **10** is shown in Figures 5a, 5b, 6 along a conventional roadway, for contrast Figure 4 shows a prior art roadway guardrail **44** and guardrail posts **24**. As can be seen in Figures, the presence of the guardrail **44** and guardrail posts **24** make it very difficult to maintain the ground underneath. Large tractor type mowers cannot maneuver between the posts **24** or under the guardrail **44**. Resort is made to hand-held equipment or chemical treatment of the area under the guardrail. The present invention substantially, if not totally eliminates this problem, wherein the universal weed cover system **10** secures between the guardrail posts **24** as described hereafter. With the system **10** in place, vegetation growth is inhibited and the need for labor-intensive weed trimming and/or chemical means for inhibiting weed growth is unnecessary. Additionally, the roadside on which the guardrail is installed takes on a neat, trimmed look with an enhanced landscaping value.

In order to install the universal weed cover system **10**, a first panel **8** is placed on the ground with the cut-out **20** surrounding the guardrail post **24**. A second panel **8** is then placed on the ground in mating alignment with the first panel **8** with the prescribed overlap (about 4 inches in the preferred embodiment). The post **24** is thereafter surrounded by the panels **8**. The panels **8** are joined by fasteners **32** through the slots **26**. The fasteners **32** are push type permanent connectors that are 1 inch long and 5/16 inches in diameter. Once the panels **8** are installed around the guardrail post **24**, the covers **8** self-clean with natural precipitation because of the provision of ribs **28** and due to the camber created by crease **30** and sloped surfaces **22** located fore and aft on the panels **8**.

Configured in this manner the panels **8** also resist accumulation of dirt on the upper surface, and channel water off the surface as well. The curled edges **42** hug the ground and serve to seal the underside of the panel **8** for prevention of light penetration. When installed, the panel **8** covers an area from the line immediately below the guardrail **44** to about 4 feet behind the guardrail **44**. The panel **8** does not extend outward from under the guardrail **44** toward the roadway **40**, thus allowing room for snow plowing without causing damage to the system **10**.

Figure 8 shows an alternative clip **50** used to secure the panels **8** to each other. The clip **50** is S-shaped and is a sufficient size to allow the panels to move in response to ambient changes in temperature in a manner similar to the use of the slots **26** and fasteners **32**. The clips **50** are made of plastic or thermoplastic, like polyethylene, or of a polycarbonate sheet like Lexan. The clips **50** are sized to allow for about six-inches of expansion/contraction of the panels **8**, and are elongated such that a single clip **50** traverses about the entire length of the opposing lateral sides **16**, **18** of the panels **8**.

The foregoing description and drawings comprise illustrative embodiments of the present inventions. The foregoing embodiments and the methods described herein may vary based on the ability, experience, and preference of those skilled in the art. Merely listing the steps of the method in a certain order does not constitute any limitation on the order of the steps of the method. The foregoing description and drawings merely explain and illustrate the invention, and the invention is not limited thereto, except insofar as the claims are so limited. Those skilled in the art that have the disclosure before them will be able to make modifications and variations therein without departing from the scope of the invention.